ligation products were electroporated into *E. coli* TG-1. The size distribution of library inserts was evaluated by PCR with primers flanking the cloning site (Sfiseq5, 5'-TCACCATCATCACGGGGCCAT-3' (SEQ ID NO:7) and Sfiseq3, 5'-GTTTTTGTTCTGC GGCCGTTG-3' (SEQ ID NO:8)) with Pfu Polymerase for 30 cycles (94°C x 1 min, 55°C x 1 min, 72°C x 1 min).--

Please insert the accompanying paper copy of the Sequence Listing, page numbers 1 to 3, at the end of the application.

REMARKS

Applicants request entry of this amendment in adherence with 37 C.F.R. §§1.821 to 1.825. This amendment is accompanied by a floppy disk containing the above named sequences, SEQ ID NOS:1-8, in computer readable form, and a paper copy of the sequence information which has been printed from the floppy disk.

The information contained in the computer readable disk was prepared through the use of the software program "PatentIn" and is identical to that of the paper copy. This amendment contains no new matter.

Attached hereto is a marked-up version of the changes made to the Specification by the current Amendment. The attached pages are captioned "**VERSION WITH MARKINGS TO SHOW CHANGES MADE.**"

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

Paragraph beginning at line 31 of page 5 has been amended as follows:

As used herein, the term "single-chain antibody" refers to a polypeptide comprising a V_H domain and a V_L domain in polypeptide linkage, generally linked via a spacer peptide (*e.g.*, $[Gly\text{-}Gly\text{-}Gly\text{-}Gly\text{-}Ser]_x$; SEQ ID NO:1), and which may comprise additional amino acid sequences at the amino- and/or carboxy-termini. For example, a single-chain antibody may comprise a tether segment for linking to the encoding polynucleotide. As an example, a scFv is a single-chain antibody. Single-chain antibodies are generally proteins consisting of one or more polypeptide segments of at least 10 contiguous amino acids substantially encoded by genes of the immunoglobulin superfamily (*e.g.*, see The Immunoglobulin Gene Superfamily, A. F. Williams and A. N. Barclay, in Immunoglobulin Genes, T. Honjo, F. W. Alt, and T. H. Rabbitts, eds., (1989) Academic Press: San Diego, Calif., pp. 361-387, which is incorporated herein by reference), most frequently encoded by a rodent, non-human primate, avian, porcine, bovine, ovine, goat, or human heavy chain or light chain gene sequence. A functional single-chain antibody generally contains a sufficient portion of an immunoglobulin superfamily gene product so as to retain the property of binding to a specific target molecule, typically a receptor or antigen (epitope). Techniques for the production of single chain antibodies (U.S. Patent 4,946,778) can be adapted to produce antibodies for use in this invention.

Paragraph beginning at line 30 of page 31 has been amended as follows:

The H11 library described above was constructed from a 50 kb human P1 (P1 clone 876h9, Genbank accession AC004039), containing the Interleukin-4, Interleukin-13, and kinesin-like protein-3 genes from 5q31. 20 μg P1 DNA was purified by standard method (Qiagen) (Collins *et al., Proc. Natl. Acad. Sci USA* 95:8703-8708, 1998) and was randomly fragmented with decreasing concentrations of DNAse I (10 units / ml) in 10 mM Tris pH 7.0 / 10 mM $MnCl_2$ for 8 minutes at 15°C, extracted and precipitated. Fragments were blunted with 5 units/μg T4 polymerase for 30 min at 12°C, extracted and precipitated. Linkers containing a Sfi-1 restriction site (Link1 5'-AGCGGCCGCAGGCCATGGAGGCC-3' (SEQ ID NO:2), Link2 5'-GGCCTCCATGGCCTGCGGCCGCT-3' (SEQ ID NO:3)) were ligated to target DNA with 400 units T4 DNA ligase for 2 hours at room temperature. The resulting product was electrophoresed on a 2.0% agarose gel and the size range of 100-300 bp was collected and eluted from NA-45 DEAE paper (Schleicher and Schuell, Keene, NH) 100 ng of the linker-ligated product was used as template in PCR with a nested primer LP5 (5'-GCGGCCGCAGGCCATGGA-3'; SEQ ID NO:4) with 2.5 units Pfu Polymerase/2.5 units panoTAQ for 30 cycles (94°C x 1 min, 55°C x 1 min, 72°C x 1 min). The PCR products were digested with Sfi-1 and gel purified. A positive control phage displaying the 3' exon of the IL-4 cDNA (490-612 bp) was also constructed (Yokota *et al., Proc. Natl. Acad. Sci USA* 83:5894-5898, 1986).

Paragraph beginning at line 14 of page 32 has been amended as follows:

A phage display vector, pORF-1, was engineered for gene fragment phage display. It is a pHEN-1 (Hoogenboom *et al., Nucl. Acid Res.* 19:4133-4137, 1991) based vector that contains a pelB leader sequence, a 5' hexahistidine tag and a non-religatable Sfi-1 insert cloning site which is upstream and contiguous with the M13 gene III and a 3' myc epitope tag. pORF-1 was constructed by two rounds of template mutagenesis of

pHEN-1 vector with primers (NSFI 5'-GCGGCCCAGCCGGCGATGGC CCAGCACCATCACCATCATCACGGGGCCATGGTGCAGCTGCAGG-3' (SEQ ID NO:5); SUP 5'-TCACGGGGCCATGGGGGCCCAGGCCTCAGTCGATCGACACGG CCTCCACGGCCGCAGAACAA-3' (SEQ ID NO:6)) (Kunkel *et al. J. Biol. Chem* 263:14784-14789, 1988). The base vector contained an out-of-frame 1 kb stuffer fragment. Sfi-1 digested insert was ligated into the digested vector and optimized ligation products were electroporated into *E. coli* TG-1. The size distribution of library inserts was evaluated by PCR with primers flanking the cloning site (Sfiseq5, 5'-TCACCATCATCACGGGGCCAT-3' (SEQ ID NO:7) and Sfiseq3, 5'-GTTTTTGTTCTGC GGCCGTTG-3' (SEQ ID NO:8)) with Pfu Polymerase for 30 cycles (94°C x 1 min, 55°C x 1 min, 72°C x 1 min).